

**TITLE OF STUDY:** A study to evaluate the validity of Mannheim Peritonitis Index(MPI) as compared to APACHE II scoring system in predicting outcome of patients with peritonitis.

**DEPARTMENT:** General Surgery

**NAME OF THE CANDIDATE:** Paul Trinity Stephen. D

**DEGREE AND SUBJECT:** M.S General Surgery

**NAME OF THE GUIDE:** Dr. Vijay Abraham

## **ABSTRACT**

### **Background**

Peritonitis is one of the most common surgical emergencies with significant morbidity and mortality. Multiple scoring systems have been proposed and assessed in predicting the outcome in patients with peritonitis. Among them are APACHE II(clinical and laboratory parameters) and Mannheim peritonitis index(MPI) ( clinical parameters only). This study was conducted to identify the predicting ability of both these scores and to compare MPI with APACHE II.

### **Study Design**

Patients presenting to the emergency department or the surgical wards with clinical features of peritonitis either localized or generalized were prospectively studied from September 2014 to August 2016. A total of 77 patients were studied. Both APACHE II and MPI were calculated for these patients and they were followed up to death or discharge from hospital (primary outcome). Morbidity was also studied in terms of local or systemic complications and whether the scores could predict the same. The sensitivity and specificity of the variables were calculated and assessed for their effectiveness in predicting outcome. Subgroup analysis was done using Bayesian methods.

## **Results**

Of the 77 patients studied during this period, there were 10 (12.9%) non-survivors and 67 survivors (87%). The sensitivity and specificity of APACHE II score with cutoff of 10 were 40% and 78% respectively. The sensitivity and specificity of MPI with cutoff of 22 were 90% and 23% respectively. We did not find any statistically significant risk factor for increased mortality. MPI and APACHE II were both not good predictors of morbidity in patients with peritonitis, though MPI was slightly better among the two.

## **Conclusion**

APACHE II was a better predictor of mortality in patients with peritonitis as compared to MPI though both had poor sensitivity and specificity than what was expected. Both the scores were poor predictors of morbidity in patients with peritonitis.

Age>50 years, left shift of WBC and time elapsed between presentation and surgery were risk factors which showed some increased risk of mortality in patients with peritonitis though this was statistically insignificant.

**Keywords**

- APACHE II scoring system
- MPI ( Mannheim peritonitis index)
- Peritonitis
- Mortality
- Morbidity
- Risk factors